

**On a collection of buccinacean and mitracean Gastropods
(Mollusca, Neogastropoda)
from the Mozambique Channel and New Caledonia**

by W. O. CERNOHORSKY

Abstract. — The present paper deals with a collection of 59 species of buccinacean and mitracean gastropods belonging to 4 families from moderately shallow to deep water around the Mozambique Channel area, north of Madagascar. A total of 27 % of the species recovered are new geographical range extensions. The New Caledonian material consists of 21 species belonging to 5 families, and was dredged, with one exception, in moderately deep water. A total of 38 % of the New Caledonian species represent new geographical records, and one of these is a new species: *Volutomitra (Waimatea) vaubani* n. sp. The new name *Vexillum (Costellaria) duplex* is proposed for the homonymous *Mitra simplicissima* Schepman, 1911, and its var. *glabra* Schepman, 1911.

Résumé. — L'auteur étudie une collection de 59 espèces appartenant à 4 familles de Gastéropodes Buccinacea et Mitracea dragués dans le nord du canal du Mozambique, à des profondeurs diverses. L'étude montre une extension de l'aire de répartition connue pour 27 % des espèces. Le matériel néo-calédonien comprend 21 espèces appartenant à 5 familles et a été dragué, à une exception près, en eau relativement peu profonde. L'aire de répartition connue se trouve étendue pour 38 % des espèces, dont une est nouvelle: *Volutomitra (Waimatea) vaubani* n. sp. Le nom nouveau *Vexillum (Costellaria) duplex* est proposé en remplacement du nom *Mitra simplicissima* Schepman, 1911, et de sa variété *glabra* Schepman, 1911, tous deux préoccupés.

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INTRODUCTION

Dr. P. BOUCHET, Department of Malacology, Muséum national d'Histoire naturelle, Paris, kindly gave me the opportunity to examine and report upon material belonging to 4 families of neogastropod molluscs collected in the Mozambique Channel and off southern New Caledonia. The material available for examination has been sorted by the Centre de Tri d'Océanographie biologique.

The first part of this paper deals with 59 species belonging to the families Nassariidae, Mitridae, Costellariidae and Volutomitridae, obtained during dredging operations in the Mozambique Channel. This material was collected by the "Mission Benthedi" during an expedition to the Comoro and Glorieuses Islands, just west of the northern tip of Madagascar and at its northern fringe of the Mozambique Channel, during the 15th March and 15th April, 1977, under the leadership of Dr. B. A. THOMASSIN, Université d'Aix-Marseille. Molluscan sampling consisted of diving and hand-collecting in waters as shallow as 5 m

and dredging to a depth of 1 150 m. Station 122-DS, which is S.E. of the Glorieuses Islands, 615 m-625 m, contained dead examples of typically shallow water species which normally live in the intertidal zone and are not found living in depth exceeding 100 m.

The second part of the paper deals with the 21 species of the families Buccinidae, Nassariidae, Mitridae, Costellariidae and Volutomitridae recovered through dredging in deep water (with the exception of a single station at 80 m depth) off the southeastern part of New Caledonia by " N.O. Vauban " of ORSTOM during 1978 and 1979. Some of the deep water species of *Nassaria* recovered show a relationship with the Norfolk Ridge and Kermadec Trench fauna where the species also occur.

LIST OF GASTROPOD MOLLUSCS FROM THE MOZAMBIQUE CHANNEL

Family NASSARIIDAE

1. *Nassarius concinnus* (Powys, 1835) : St. 32-S, N. Pamanzi Isle, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.).
2. *N. cf. crematus* (Hinds, 1844) : St. 33-DR, E. Longogori Passage, Mayotte Id., 12°54' S & 45°16' E, 275 m-400 m (1 sp.).
3. *N. delicatus* (A. Adams, 1852) : St. 18-S, S. Ilet Gombé Doumé, Mayotte Id., 12°45' S & 45°16' E, 15 m (1 sp.) ; St. 106-R, Zelee Bank, 12°25' S & 46°16' E, 18 m-24 m (1 sp.).
4. *N. dilutus* (E. A. Smith, 1899) : see text.
5. *N. graufifer* (Kiener, 1834) : St. 15-S, W. Geyzer Bank, 12°22' S & 46°24' E, 20 m (5 sp.) ; St. 24-S, S.E. M'Zamboro Pass, 12°37' S & 45°10' E, 16 m-18 m (4 sp.) ; St. 32-S, N. Pamanzi Isle, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (3 sp.) ; St. 36-S, N. entrance to Longogori Pass, Mayotte Id., 12°52' S & 45°16' E, 30 m (1 sp.) ; St. 39-S, S. entrance to Longogori Pass, Mayotte Id., 12°52' S & 45°17' E, 7 m (4 sp.) ; St. 46-S, S. Barrier reef, Mayotte Id., 13°04' S & 45°09' E, 33 m (1 sp.) ; St. 66-S, M'Sanga Tsohole reef, Mayotte Id., 12°42' S & 44°59' E, 5 m (2 sp.) ; St. 79-S, L'Iris Bank, Mayotte Id., 12°33' S & 44°56' E, 25 m (2 sp.) ; St. 100-S, W. Grande Glorieuses Ids., 11°32' S & 47°17' E, 10 m (2 sp.) ; St. 101-DS, N.W. Ile du Lys, Glorieuses Ids., 11°26' S & 47°20' E, 26 m (1 sp.) ; St. 116-S, S. part of lagoon, Geyzer Bank, 13 m (1 sp.) ; St. 117-S, same as St. 116-S but 3 m-8 m (5 sp.) ; St. 124-R + S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (8 sp.).
6. *N. hiweroessus* (Melville & Standen, 1903) : St. 10-DS, W. of Glorieuses Ids., 11°29' S & 47°17' E, 440 m (4 sp.) ; St. 37-DR, E. Bandelé reef, Mayotte Id., 12°54' S & 45°16' E, 520 m-830 m (2 sp.) ; St. 38-DR, E. Bandelé reef, Mayotte Id., 12°55' S & 45°16' E, 200 m-500 m (2 sp.) ; St. 94-DS, S.W. Grande Glorieuses Ids., 11°32' S & 47°16' E, 480 m-550 m (1 sp.).
7. *N. multipunctatus* (Sehpepman, 1911) : see text.
8. *N. quadrasi* (Hidalgo, 1904) : St. 9-S, N.N.W. of Grande Glorieuses Ids., 11°31' S & 47°18' E, 10 m-15 m (2 sp.) ; St. 51-S, Faro Bouéni, Mayotte Id., 12°55' S & 44°58' E (1 sp.).
8. *N. splendidulus* (Dunker, 1846) : St. 100-S, W. Grande Glorieuses Ids., 11°32' S & 47°17' E, 10 m (1 sp.) ; St. 101-R, N.E. Ile du Lys, Glorieuses Ids., 11°26' S & 47°20' E, 28 m (1 sp.) ; St. 111-S, S. Zelee Bank, 12°26' S & 46°16' E, 24 m (1 sp.).

Family MITRIDAE

1. *Mitra uitra* (Linnaeus, 1758) : St. 24-R, S.E. M'Zamboro Pass, Mayotte Id., 12°37' S & 45°10' E, 16 m-18 m (1 sp.).
2. *M. triplicata* von Martens, 1904 : St. 10-DS, W. of Glorieuses Ids., 11°29' S & 47°17' E, 440 m (1 sp.) ; St. 61-F, W. of la Grande Passe de l'Ouest, Mayotte Id., 475 m-510 m (1 sp.).

3. *M. coronata* Lamarek, 1811 : St. 124-S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (1 sp.).
4. *M. cucumerina* Lamarck, 1811 : St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.).
5. *M. rosacea* Reeve, 1845 : see text.
6. *M. rubritincta* Reeve, 1844 : see text.
7. *M. suturata* Reeve, 1845 : see text.
8. *M. tabanula* Lamarek, 1811 : St. 106-R, S. fringe of Zclée Bank, 12°25' S & 46°16' E, 18 m-24 m (1 sp.).
9. *M. luctuosa* A. Adams, 1853 : St. 24-R + S, S.E. pass of M'Zamboro, Mayotte, Id., 12°37' S & 45°10' E, 16 m-18 m (1 sp.); St. 79 -R+ S, L'Iris Bank, Mayotte Id., 12°35' S & 44°55' E, 25 m (2 sp.).
10. *Ziba pretiosa* (Reeve, 1844) : St. 6-DR, W. of Glorieuses Ids., 11°29' S & 47°12' E, 460 m-500 m (1 sp.). The species has to be removed from the genus *Neocancilla* Cernohorsky, and re-assigned to *Ziba* H. & A. Adams, on the basis of its radula.
11. *Z. reideri* (Webb, 1958) : see text.
12. *Subcancilla annulata* (Reeve, 1844) : St. 23-S, Vatou Ile, Mayotte Id., 12°46' S & 45°16' E, 6 m (1 sp.).
13. *Domiporta carnicolor* (Reeve, 1844) : St. 32-SA, N. Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.); St. 101-RS, N.W. Ile du Lys, 11°26' S & 47°20' E, 26 m-28 m (1 sp.).
14. *D. granatina* (Lamarck, 1811) : St. 24-S, S.E. pass of M'Zamboro, Mayotte Id., 12°37' S & 45°10' E, 16 m-18 m (1 sp.); St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.).
15. *Neocancilla circula* (Kiener, 1838) : St. 18-S, S. Gombé Doumé Ile, Mayotte Id., 12°45' S & 45°16' E, 15 m (5 sp.); St. 23-S, Vatou Ile, Mayotte Id., 12°46' S & 45°16' E, 6 m (1 sp.).
16. *N. papilio* (Link, 1807) : St. 100-S, W. Grande Glorieuses Ids., 11°32' S & 47°17' E, 10 m (1 sp.).
17. *Scabricola (Swainsonia) bicolor* (Swainson, 1824) : St. 32-SA, N. Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.); St. 66-S, M'Sanga Tsohole reef, Mayotte Id., 12°42' S & 44°59' E, 5 m (1 sp.).
18. *S. (S.) fissurata* (Lamarck, 1811) : St. 124-S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (1 sp.).

Family COSTELLARIIDAE

1. *Vexillum citrinum* (Gmelin, 1791) [previously known under its junior synonym *V. regina* Sowerby, 1828] : St. 20-S, N. Dzaoudzi, Mayotte Id., 12°46' S & 45°15' E, 20 m (1 sp.); St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.).
2. *V. (Costellaria) bipartitum* (E. A. Smith, 1884) : see text.
3. *V. (C.) cadaverosum* (Reeve, 1844) : St. 32-S, N. Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.); St. 51-S, Faro Bouéni, Mayotte Id., 12°55' S & 44°58' E, 15 m (1 sp.).
4. *V. (C.) collinsoni* (A. Adams, 1864) : St. 10-DS, W. of Glorieuses Ids., 11°29' S & 47°17' E, 440 m (4 sp.); St. 122-DS, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 615 m-625 m (1 sp.).
5. *V. (C.) corbicula* (Sowerby, 1870) : St. 23-S, Vatou Ile, Mayotte Ids., 12°46' S & 45°16' E, 6 m (1 sp.).
6. *V. (C.) coronatum* (Helbling, 1779) : St. 100-S, W. Grande Glorieuses Ids., 11°32' S & 47°17' E, 10 m (1 sp.).
7. *V. (C.) crocatum* (Lamarck, 1811) : St. 36-S, entrance to N. pass of Longogori, Mayotte Id., 12°52' S & 45°16' E, 30 m (1 sp.).

8. *V. (C.) deshayesii* (Reeve, 1844) : St. 18-S, S. Gombé Doumé Ile, Mayotte Id., 12°45' S & 45°16' E, 15 m (2 sp.); St. 23-S, Vatou Ile, Mayotte Id., 12°46' S & 45°16' E, 6 m (3 sp.).
9. *V. (C.) diutenerum* (Hervier, 1897) : St. 93-DS, S.W. Grande Glorieuses Ids, 11°32' S & 47°16' E, 480 m-550 m (1 sp.); St. 110-R, S. Zelee Bank, 12°26' S & 46°16' E, 24 m (1 sp.); St. 124-S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (5 sp.).
10. *V. (C.) duplex* nom. nov. : see text.
11. *V. (C.) exasperatum* (Gmelin, 1791) : St. 18-S, S. Gombé Doumé Ile, Mayotte Id., 12°45' S & 45°16' E, 15 m (2 sp.); St. 23-S, Vatou Ile, Mayotte Id., 12°46' S & 45°16' E, 6 m (3 sp.); St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (6 sp.); St. 36-S, entrance of N. pass of Longogori, Mayotte Id., 12°52' S & 45°16' E, 30 m (1 sp.); St. 51-S, Faro Bouéni, Mayotte Id., 12°55' S & 44°58' E, 15 m (2 sp.); St. 66-S, M'Sanga Tsohole reef, Mayotte Id., 12°42' S & 44°59' E, 5 m (1 sp.); St. 101-DS, N.W. of Ile du Lys, Glorieuses Ids., 11°26' S & 47°20' E, 26 m (2 sp.); St. 117-S, S. side of lagoon, Geyser Bank, 3 m-8 m (1 sp.).
12. *V. (C.) filistriatum* (Sowerby, 1874) : St. 93-DS, S.W. Grande Glorieuses Ids., 11°32' S & 47°16' E, 480-550 m (1 sp.).
13. *V. (C.) leucozonias* (Deshayes in Laborde & Linant, 1834) : St. 79-R + S, L'Iris Bank, Mayotte Id., 12°35' S & 44°55' E, 25 m (1 sp.); St. 124-S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (1 sp.).
14. *V. (C.) lucidum* (Reeve, 1845) : St. 18-S, S. Gombé Doumé Ile, Mayotte Id., 12°45' S & 45°16' E, 15 m (3 sp.); St. 23-S, Vatou Ile, Mayotte Id., 12°46' S & 45°16' E, 6 m (1 sp.).
15. *V. (C.) micra* (Pilsbry, 1921) : see text.
16. *V. (C.) modestum* (Reeve, 1845) : St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.); St. 50-S, Bouéni reef, Mayotte Id., 12°55' S & 44°59' E, 32 m (1 sp.); St. 111-S, S. Zelee Bank, 12°26' S & 46°16' E, 24 m (1 sp.); St. 122-DS, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 615 m-625 m (1 sp.).
17. *V. (C.) pacificum* (Reeve, 1845) : St. 23-S, Vatou Ile, Mayotte Id., 12°46' S & 45°16' E, 6 m (1 sp.); St. 24-S, S.E. pass of M'Zamboro, Mayotte Id., 12°37' S & 45°10' E, 16 m-18 m (1 sp.); St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (3 sp.); St. 79-R + S, L'Iris Bank, Mayotte Id., 12°35' S & 44°55' E, 25 m (2 sp.); St. 117-S, S. side of lagoon, Geyser Bank, 3 m-8 m (3 sp.).
18. *V. (C.) radix* (Sowerby, 1874) : St. 10-DS, W. Glorieuses Ids., 11°29' S & 47°17' E, 440 m (1 sp.).
19. *V. (C.) rubellum* (Adams & Reeve, 1850) : see text.
20. *V. (C.) sculptile* (Reeve, 1845) : St. 33-DR, E. Longogori Pass, Mayotte Id., 12°54' S & 45°16' E, 275 m-400 m (1 sp.); St. 49-F, W. Bouéni Pass, Mayotte Id., 12°55' S & 44°57' E, 300 m-450 m (6 sp.).
21. *V. (C.) turriger* (Reeve, 1845) : St. 51-S, Faro Bouéni, Mayotte Id., 12°55' S & 44°58' E, 15 m (5 sp.).
22. *V. (C.) unifascialis* (Lamarek, 1811) : St. 5-DR, W. bank of Leven, 12°32' S & 47°40' E, 35 m-150 m (2 sp.).
23. *V. (Pusia) catenatum* (Broderip, 1836) : see text.
24. *V. (P.) roseotinctum* (Hervier, 1897) : see text.
25. *V. (P.) infaustum* (Reeve, 1845) : St. 124-S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (1 sp.).
26. *V. (P.) microzonias* (Lamarek, 1811) : St. 5-DR, W. Bank of Leven, 12°32' S & 47°40' E, 35 m-150 m (1 sp.).
27. *V. (P.) goubini* (Hervier, 1897) [forma *plurinotata* Hervier, 1897] : see text.
28. *V. (P.) rubrum* (Broderip, 1836) : St. 1-R, Bank of Leven, 12°34' S & 47°40' E, 42 m (1 sp.); St. 5-DR, W. Bank of Leven, 12°32' S & 47°18' E, 35 m-150 m (1 sp.); St. 8-DR, W. of Glo-

- rieuses Ids., 11°29' S & 47°18' E, 250 m (1 sp.); St. 14-R, W. Geysers Bank, 12°22' S & 46°24' E, 5 m-20 m (4 sp.); St. 24-S, S.E. pass of M³Zamboro, Mayotte Id., 12°37' S & 45°10' E, 16 m-18 m (3 sp.); St. 32-R + S, N. of Pamanzi Ile, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.); St. 124-S, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 24 m (3 sp.).
29. *V. (P.) salisburyi* Cernohorsky, 1976 : see text.
30. *V. (P.) speciosum* (Reeve, 1845) : see text.
31. *V. (P.) tusum* (Reeve, 1845) : St. 5-DR, W. Bank of Leven, 12°32' S & 47°40' E, 35 m-150 m (1 sp.); St. 8-DR, W. of Glorieuses Ids., 11°29' S & 47°18' E, 250 m (1 sp.).

Family VOLUTOMITRIDAE

1. *Microvoluta joloensis* Cernohorsky, 1970 : see text.

SYSTEMATIC PART

(Only new geographical records are included)

Family NASSARIIDAE

Genus **NASSARIUS** Duméril, 1806

Nassarius dilutus (E. A. Smith, 1899)

(Pl. I, 1)

Nassa (Hebra) diluta E. A. Smith, 1899 : 243 ; SCHEPMAN, 1911 : 323.

Nassa diluta : ANNANDALE & STEWART, 1901 : pl. 11, figs. 3, 3a.

Profundinassa pupa Okutani, 1968 : 34, pl. 3, fig. 8 (shell), textfig. 4 (operculum and radula).

MATERIAL EXAMINED : St. 3-DS, W. Bank of Leven, 12°35' S & 47°38' E, 1100 m-1150 m (2 sp.).

DISTRIBUTION : From the south Indian coast to Indonesia, the Arafura Sea and Japan, 988 m-1788 m ; now Mozambique Channel.

REMARKS : A very similar species belonging to the bathyal subgenus *Profundinassa* Thiele, i.e. *Nassarius townsendi* (Dall, 1890) is found in the Galápagos Islands.

Nassarius multipunctatus (Schepman, 1911)

(Pl. I, 2)

Nassa (Zeuxis) multipunctata Schepman, 1911 : 321, pl. 20, figs. 4a, b.

MATERIAL EXAMINED : St. 5-DR, W. Bank of Leven, 12°32' S & 47°40' E, 35 m-150 m (1 sp.).

DISTRIBUTION : From Indonesia to the Philippines and the Solomon Islands, 150 m-200 m ; now Mozambique Channel.

REMARKS : The specimen from St. 5-DR is immature. Mature individuals have a more thickened outer lip with lirate denticles within. Early whorls are axially ribbed but last 2-3 whorls are smooth except for faint spiral striae.

Family MITRIDAE

Genus MITRA Lamarek, 1798

Subgenus *Nebularia* Swainson, 1840

Mitra (*Nebularia*) rubritincta Reeve, 1844

Mitra rubritincta Reeve, 1844 : pl. 19, fig. 147.

Mitra (Nebularia) rubritincta : CERNOHORSKY, 1976 : 399, col. pl. 256, figs. 11, 12 ; pl. 336, figs. 2-4 (synonymy).

MATERIAL EXAMINED : St. 32-R + S, N. of Pamanzi Ilet, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.) ; St. 36-S, entrance to N. pass of Longogori, Mayotte Id., 12°52' S & 45°16' E, 30 m (1 sp.).

DISTRIBUTION : From Mauritius to the Hawaiian Islands and French Polynesia ; now Mozambique Channel.

Mitra (*Nebularia*) rosacea Reeve, 1845

(Pl. I, 3)

Mitra rosacea Reeve, 1845 : pl. 38, fig. 321.

Mitra (Nebularia) rosacea : CERNOHORSKY, 1976 : 422, pl. 256, figs. 29-32 ; pl. 367 (synonymy).

MATERIAL EXAMINED : St. 101-DS, N.W. of Lys Ilet, Glorieuses Ids., 11°26' S & 47°20' E, 26 m (2 sp.).

DISTRIBUTION : From Thailand to West Australia, Papua New Guinea and Japan ; now Mozambique Channel.

Mitra (*Nebularia*) suturata Reeve, 1845

Mitra suturata Reeve, 1845 : pl. 34, fig. 282.

Mitra (Nebularia) suturata : CERNOHORSKY, 1976 : 416, col. pl. 256, fig. 28 ; pl. 359, figs. 1-4 (synonymy).

MATERIAL EXAMINED : St. 10-DS, W. of Glorieuses Ids., 11°29' S & 47°17' E, 440 m (1 sp.).

DISTRIBUTION : From Indonesia to the Philippines and China ; now Mozambique Channel.

Genus **ZIBA** H. & A. Adams, 1853

Ziba rehderi (Webb, 1958)

(Pl. I, 4)

Mitra rehderi Webb, 1958 : 30, textfig. 2 ; KOSUGE, 1979 : 27, pl. 6, fig. 26.

Ziba cf. *rehderi* : CERNOHORSKY, 1978 : 60, figs. 11, 12 (figd. holotype).

MATERIAL EXAMINED : St. 8-DR, W. of Glorieuses Ids., 11°29' S & 47°18' E, 250 m (1 sp.) ; St. 120-DS, S.E. of Glorieuses Ids., 11°30' S & 47°25' E, 335 m-390 m (1 sp.).

DISTRIBUTION : From the Philippines to Japan, Midway Island and the Kermadec Islands ; now Mozambique Channel.

REMARKS : Originally described from Japan, the species has been recently recorded from the Kermadec Islands (CERNOHORSKY, 1978), Midway Island (KOSUGE, 1979) and a specimen from Panlao, Bohol, Philippines (*leg.* V. DAN) has also been examined. The Glorieuses Islands record is a major range extension into the Indian Ocean.

Family COSTELLARIIDAE

Genus **VEXILLUM** Röding, 1798

Subgenus *Costellaria* Swainson, 1840

Vexillum (Costellaria) bipartitum (E. A. Smith, 1884)

(Pl. I, 5)

Mitra pusilla A. Adams, 1853 : 141 (non King & Broderip, 1832 ; nec Bivona, 1832).

Turricula (Callithea) bipartita E. A. Smith, 1884 : 499, pl. 44, fig. 0.

MATERIAL EXAMINED : St. 18-S, S. Gombé Doumé Ilet, Mayotte Id., 12°45' S & 45°16' E, 15 m (1 sp.) ; St. 23-S, Vatou Ilet, Mayotte Id., 12°46' S & 45°16' E, 6 m (1 sp.) ; St. 93-DS, S.W. Grande Glorieuses Ids., 11°32' S & 47°16' E, 480 m-550 m (1 sp.).

DISTRIBUTION : Previously known only from the Mascarene Islands and Indonesia ; now Mozambique Channel.

REMARKS : The species is rarely seen in collections and apart from the type locality of Mascarene Islands I have seen only specimens from the Moluccas, Indonesia.

Vexillum (Costellaria) duplex nom. nov.

(Pl. I, 6-7)

Mitra simplicissima Schepman, 1911 : 270, pl. 18, figs. 11 a, b (non Cooper, 1894).

Mitra simplicissima var. *glabra* Schepman, 1911 : 270, pl. 18, fig. 11c (non Swainson, 1821 ; nec Pease, 1868).

MATERIAL EXAMINED : St. 10-DS, W. of Glorieuses Ids., 11°28' S & 47°18' E, 440 m (1 sp.).

TYPE LOCALITY : Channel between Makjan and Halmahera, Indonesia, 472 m, fine dark muddy sand (*M. simplicissima*) ; Ceram Sea, 835 m, blue mud (*M. glabra*) ; now recorded from the Mozambique Channel.

TYPE MATERIAL : The holotype of *M. simplicissima* Schepman (= *V. (C.) duplex* nom. nov.) is in the Zoological Museum, University of Amsterdam, dimensions length 21.6 mm, width 6.3 mm, height of aperture 10.8 mm. The shell has $7\frac{1}{2}$ + whorls, protoconch is missing, 17 thin axial ribs on the penultimate and 10 low, irregular thin ribs on the body whorl, whorls with a flat subsutural cord which produces low nodules on ribs and gives the appearance of a duplicated sutural girdle, lower half of the body whorl with 15 slightly granulose cords, columella with 3 folds ; dirty creamy-white in colour.

The holotype of *M. simplicissima* var. *glabra* Schepman, is in the same Institution, length 16.4 mm, width 5.5 mm, height of aperture 8.1 mm. It is a younger specimen with less numerous axial ribs, i.e. 12 on the penultimate and 5 on the body whorl and the spiral sculpture is also smoother.

REMARKS : Both epithets of *Mitra simplicissima* Schepman, 1911, and *M. simplicissima* var. *glabra* are primary homonyms of *M. simplicissima* Cooper, 1894, and *M. glabra* Swainson, 1821, and *Vexillum (Costellaria) duplex* is here proposed as a substitute name since no junior synonyms are available.

The species is uncommon in dredgings. It will reach a length of 35.0 mm, and some specimens are pale yellowish or fawn in colour.

Vexillum (Costellaria) micra Pilsbry, 1921

(Pl. II, 9)

Vexillum micra Pilsbry, 1921 : 317 ; J. CATE, 1962 : 147, pl. 34, fig. 6 (figd. holotype).

Mitra elima " Dall MS ", J. CATE, 1963 : 34, pl. 6, fig. 23 (spec. juv.) [*nomen nudum*].

Vexillum (Costellaria) micra : SALISBURY, 1976 : 9, text-figs. ; CERNOHORSKY, 1979 : 110, pl. 37, fig. 2 ; KAY, 1979 : 321, fig. 107 D.

MATERIAL EXAMINED : St. 14-R, W. of Geyser Bank, 12°22' S & 46°24' E, 5 m-20 m (1 sp.) ; St. 101-RS, N.W. of Ile du Lys, Glorieuses Ids., 11°26' S & 47°20' E, 26 m-28 m (1 sp.) ; St. 106-R, S. Border of Zelee Bank, 12°26' S & 46°16' E, 18 m-24 m (2 sp.).

DISTRIBUTION : From the Marianas to the Hawaiian Islands ; now Mozambique Channel.

REMARKS : The species is not endemic to the Hawaiian Islands as previously thought. SALISBURY (1976) reported the species from Guam, Marianas Islands and I have also examined specimens from Orote Pt., Apra Harbour, Guam Id., in 27 m (*leg.* SALTZGAYER). The specimen illustrated here from W. Geyser Bank, Mozambique Channel, is very similar to the Hawaiian individual illustrated by SALISBURY (*op. cit.*, fig. on right).

Vexillum (Costellaria) rubellum (Adams & Reeve, 1850)

(Pl. I, 8)

Mitra rubella Adams & Reeve, 1850 : 27, pl. 10, fig. 30.

MATERIAL EXAMINED : St. 120-DS, S.E. of Glorieuses Ids., 11°30' S & 47°25' E, 335 m-390 m (1 sp.).

DISTRIBUTION : From Indonesia to the Philippines ; now Mozambique Channel.

REMARKS : An extremely rare species of which less than half a dozen specimens are known. The illustrated individual has a portion of the outer lip missing.

Subgenus *Pusia* Swainson, 1840

Vexillum (Pusia) catenatum (Broderip, 1836)

Tiara catenata Broderip, 1836 : 195.

Vexillum (Pusia) catenatum : CERNOHORSKY, 1979 : 116, pl. 40, fig. 4 ; KAY, 1979 : 325, fig. 110A.

MATERIAL EXAMINED : St. 124-S, S.E. of Glorieuses Ids., 11°32' S & 47°23' E, 24 m (1 sp.).

DISTRIBUTION : From the Marianas Islands to New Caledonia, Hawaii and the Tuamotu Archipelago ; now Mozambique Channel.

Vexillum (Pusia) cf. roseotinctum (Hervier, 1897)

(Pl. II, 11)

Mitra (Pusia) roseotincta Hervier, 1897 : 66 ; HERVIER, 1898 : 247, pl. 10, figs. 9, 9a.

MATERIAL EXAMINED : St. 14-R, W. Geyser Bank, 12°22' S & 46°24' E, 5 m-20 m (1 sp.).

DISTRIBUTION : From the Philippines to the Tuamotu Archipelago ; now Mozambique Channel.

REMARKS : The illustrated specimen is in poor condition and some slight doubts may remain as to its identity. However, I have examined a specimen of *V. (P.) roseotinctum* from Tuléar, Madagascar, per courtesy of Dr. B. THOMASSIN, Université d'Aix-Marseille, which confirms the species occurrence in that area.

Vexillum (Pusia) goubini (Hervier, 1897)

(Pl. II, 12)

Mitra (Pusia) goubini Hervier, 1897 : 67 ; HERVIER, 1899 : 209, pl. 10, fig. 3.

Mitra (Pusia) goubini var. *plurinotata* Hervier, 1897 : 67 ; HERVIER, 1899 : 210, pl. 10, fig. 3a.

MATERIAL EXAMINED : St. 8-DR, W. of Glorieuses Ids., 11°29' S & 47°18' E, 250 m (1 sp.).

DISTRIBUTION : Papua New Guinea to the Loyalty Islands ; now Mozambique Channel.

REMARKS : The specimen from the Glorieuses Islands is the form described by HERVIER (1897) as forma *plurinotata*. It differs from typical *goubini* in its less drawn out shape, more convex whorls and rows of small brown spots.

Vexillum (Pusia) salisburyi Cernohorsky, 1976

(Pl. II, 10)

Vexillum (Pusia) salisburyi Cernohorsky, 1976 : 114, figs. 6-9, 11.

MATERIAL EXAMINED : St. 14-R, W. Geyser Bank, 12°22' S & 46°24' E, 5 m-20 m (2 sp.).

DISTRIBUTION : From the Philippines to the Ryukyu Islands and Hawaii ; now Mozambique Channel.

Vexillum (Pusia) speciosum (Reeve, 1844)

(Pl. II, 13)

Mitra speciosa Reeve, 1844, pl. 19, sp. 148.

Vexillum (Pusia) speciosum : CERNOHORSKY, 1972 : 177, pl. 52, fig. 9 ; KAY, 1979 : 653.

MATERIAL EXAMINED : St. 32-R + S, N. of Pamanzi Het, Mayotte Id., 12°45' S & 45°18' E, 15 m-20 m (1 sp.).

DISTRIBUTION : From Mauritius to the Hawaiian Islands and the Tuamotu Archipelago ; now Mozambique Channel.

REMARKS : The single specimen from St. 32-R + S is immature.

Family VOLUTOMITRIDAE

Genus **MICROVOLUTA** Angas, 1877

Microvoluta joloensis Cernohorsky, 1970

(Pl. II, 14-15)

Microvoluta joloensis Cernohorsky, 1970 : 103, figs. 8-10, 12.

MATERIAL EXAMINED : St. 5-DR, W. Bank of Leven, 12°32' S & 47°40' E, 35 m-150 m (1 sp.) ; St. 8-DR, W. of Glorieuses Ids., 11°29' S & 47°18' E, 250 m (2 sp.) ; St. 10-DS, W. of Glorieuses Ids., 11°29' S & 47°17' E, 440 m (6 sp.) ; St. 104-DR, N. of Isle du Lys, Glorieuses Ids., 11°26' S & 47°22' E, 330 m-550 m (2 sp.) ; St. 120-DS, S.E. Glorieuses Ids., 11°30' S & 47°25' E, 335 m-390 m (4 sp.) ; St. 122-DS & St. 122-DS bis, S.E. Glorieuses Ids., 11°32' S & 47°23' E, 615 m-625 m (5 sp.).

DISTRIBUTION : Philippines Islands, 468 m-930 m ; now Mozambique Channel.

REMARKS : The species is common at most stations and this is the first record outside the Philippines Islands.

CONCLUSIONS

Out of the 59 species recorded from localities north of Madagascar, 2 species of Nassariidae, 4 species of Mitridae, 9 species of Costellariidae and 1 species of Volutomitridae are new geographical records for the area.

LIST OF GASTROPOD MOLLUSCS FROM OFF NEW CALEDONIA

Family BUCCINIDAE

(The first 5 species of Buccinidae listed are treated in the systematic part)

1. *Nassaria acuminata* (Reeve, 1844).
2. *N. solida* Kuroda & Habe in Habe, 1961.
3. *N. spinigera* (Hayashi & Habe, 1965).
4. *Phos textilis* A. Adams, 1851.
5. *Cantharus* sp.
6. *Engina menkeana* (Dunker, 1860) : St. 10, 22°17' S & 167°05' E, 80 m (1 sp.).

Family NASSARIIDAE

1. *Nassarius comptus* (A. Adams, 1852) : St. 10, 22°17' S & 167°05' E, 80 m (1 sp.).
2. *N. gaudiosus* (Hinds, 1844) : St. 10, 22°17' S & 167°05' E, 80 m (1 sp.).
3. *N. glans* (Linnaeus, 1758) : St. 10, 22°17' S & 167°05' E, 80 m (1 sp.).

4. *N. himeroessus* (Melvill & Standen, 1903) : St. 16, 22°46' S & 167°12' E, 390-m 400 m (1 sp.).
5. *N. siquijorensis* (A. Adams, 1852) : No St. No., South Point of "Great reef", 400 m (1 sp.).
6. *N. vitiensis* (Rousseau, 1854) : St. 2, 22°17' S & 167°14' E, 425 m-430 m (1 sp.) ; St. 10, 22°17' S & 167°05' E, 80 m (1 sp.).

Family MITRIDAE

1. *Mitra pele* Cernohorsky, 1970 : St. 3, 22°17' S & 167°12' E, 390 m (1 sp.) ; St. 4, 22°17' S & 167°13' E, 400 m (1 sp.).
2. *M. cf. rosacea* Reeve, 1845 : St. 9, 22°20' S & 167°10' E, 175 m-200 m (1 sp.).
3. *Subcancilla abyssicola* (Schepman, 1911) : see text.
4. *Domiporta cf. carnicolor* (Reeve, 1844) : St. 10, 22°17' S & 167°05' E, 80 m (3 sp.).
5. *Neocancilla cf. arenacea* (Dunker, 1852) : St. 2, 22°17' S & 167°14' E, 425 m-430 m (1 sp.) [due to the bad state of preservation of the single specimen, this new geographical record is only tentative].

Family COSTELLARIIDAE

1. *Vexillum (Costellaria) obeliscus* (Reeve, 1844) : St. 9, 22°20' S & 167°10' E, 175 m-200 m (1 sp.).
2. *V. (C.) radix* (Sowerby, 1874) : St. 9, 22°20' S & 167°10' E, 175 m-200 m (1 sp.).
3. *V. (C.) sculptile* (Reeve, 1845) : St. 3, 22°17' S & 167°12' E, 390 m (1 sp.) ; St. 9, 22°20' S & 167°10' E, 175 m-200 m (1 sp.) ; St. 10, 22°17' S & 167°05' E, 80 m (4 sp.).

Family VOLUTOMITRIDAE

1. *Volutomitra (Waimateu) vaubani* n. sp. : see text.

SYSTEMATIC PART

(Only new geographical records are included)

Family BUCCINIDAE

Genus **NASSARIA** Link, 1807

For a detailed treatment as to chronological priority of *Nassaria* Link, and specific synonymy see CERNOHORSKY (*in press*).

Nassaria (Nassaria) acuminata (Reeve, 1844)

(Pl. III, 16)

Triton acuminatus Reeve, 1844 : pl. 14, figs. 54a, b.

Nassaria acuminata : SOWERBY, 1859 : 85, pl. 220, fig. 10.

MATERIAL EXAMINED : St. 2, 22°17' S & 167°14' E, 425 m-430 m (1 sp.); St. 8, 22°19' S & 167°10' E, 220 m-230 m (1 sp.); St. 10, 22°17' S & 167°05' E, 80 m (8 sp.).

DISTRIBUTION : From the Persian Gulf to Japan and the Solomon Islands, 9 m-330 m ; now New Caledonia.

Subgenus *Microfusus* Dall, 1916

Nassaria (Microfusus) solida Kuroda & Habe in Habe, 1961
(Pl. III, 17-18)

Nassaria solida Kuroda & Habe in Habe, 1961 : 62, App. p. 22, pl. 31, fig. 16.

MATERIAL EXAMINED : St. 19, 22°45' S & 167°14' E, 395 m-405 m (1 sp.).

DISTRIBUTION : From Japan to N.E. Australia, Norfolk and the Kermadec Islands, to 677 m ; now New Caledonia.

Nassaria (Microfusus) spinigera (Hayashi & Habe, 1965)
(Pl. III, 19)

Hindsia spinigera Hayashi & Habe, 1965 : 12, 14, pl. 1, fig. 5.

MATERIAL EXAMINED : St. 2, 22°17' S & 167°14' E, 425 m-430 m (4 sp.); St. 3, 22°17' S & 167°12' E 390 m (3 sp.); St. 4, 22°17' S & 167°13' E, 400 m (3 sp.); St. 15, 22°49' S & 167°12' E, 390 m-395 m (7 sp.); St. 16, 22°46' S & 167°12' E, 390 m-400 m (5 sp.); St. 23, 22°50' S & 167°16' E, 480 m-505m, (1 sp.); St. 24, 22°48' S & 167°09' E, 355 m-360 m (1 sp.); St. 33, 22°33' S & 166°25' E, 290 m-350 m (1 sp.).

DISTRIBUTION : From Indonesia to Japan and the Kermadec Islands, 200 m-915 m ; now New Caledonia.

REMARKS : The species proved to be moderately frequent in dredge hauls at the Kermadec Islands, and in New Caledonia it also occurs at most stations.

Genus **PHOS** Montfort, 1810

Subgenus *Strongylocera* Moereh, 1852

Phos (Strongylocera) textilis A. Adams, 1851
(Pl. III, 20)

Phos textilis A. Adams, 1851 : 154 ; SOWERBY, 1859 : 93, pl. 222, figs. 48, 49.

Phos (Strongylocera) textilis : CERNOHORSKY, 1976 : 126, fig. 42.

MATERIAL EXAMINED : St. 10, 22°17' S & 167°05' E, 80 m (2 sp.).

DISTRIBUTION : From the Philippines to Papua New Guinea ; now New Caledonia.

Genus **CANTHARUS** Röding, 1798

Subgenus *Pollia* Gray in Sowerby, 1834

Cantharus (Pollia) sp.

(Pl. III, 21)

MATERIAL EXAMINED : St. 15, 22°49' S & 167°12' E, 390 m-395 m (1 sp.).

REMARKS : The solitary specimen recovered had the animal and operculum preserved within the shell. The specimen measures 18.2 mm in length, is cream in colour and the spiral cords are lined and spotted with orange-brown. It is probably a new species but a description should await the collection of more material. The species is closest to *Cantharus (Pollia) fuscipictus* (Sowerby, 1905), but this species differs prominently in sculpture.

Family MITRIDAE

Genus **CANCILLA** Swainson, 1840

Cancilla abyssicola (Schepman, 1911)

(Pl. III, 22)

Mitra (Scabricula) abyssicola Schepman, 1911 : 272, pl. 19, fig. 1.

Mitra (Scabricula) osapiensis Koperberg, 1931 : 75, pl. 2, fig. 23.

MATERIAL EXAMINED : St. 3, 22°17' S & 167°12' E, 390 m (1 sp.) ; St. 40, 22°30' S & 166°24' E, 250 m-350 m (1 sp.).

DISTRIBUTION : From Madagascar to Japan, Papua New Guinea and N.E. Australia ; now New Caledonia.

REMARKS : The illustrated specimen is not fully mature.

Family VOLUTOMITRIDAE

Genus **VOLUTOMITRA** H. & A. Adams, 1853

Subgenus *Waimatea* Finlay, 1927

Volutomitra (*Waimatea*) **vaubani** n. sp.

(Pl. IV, 23-28)

DESCRIPTION

Shell up to 13.2 mm in length, elongate-ovate, width 44 %-46 % of length, teleoconch of $4\frac{3}{4}$ -5 convex whorls which are constricted anteriorly to the sutures by a shallow and narrow trough, protoconch of $1\frac{1}{2}$ - $1\frac{3}{4}$ globose and smooth embryonic whorls. Spire whorls with straight and slender axial ribs which are slightly or distinctly granulose upon the summits; penultimate whorl with 25-31 axial ribs, axials becoming obsolete on the body whorl. Spiral sculpture consists of feeble spiral threads on the spire whorls, *c.* 2-7 per whorl, body whorl with 25-35 low, flattish and narrow spiral cords, 3-4 cords more distinct at body whorl suture but becoming obsolete centrally and again more distinct towards the base. Aperture longer than the spire, 61 %-67 % of length, moderately open and smooth within, outer lip slightly thickened and simple; columella not calloused and with 3-4 wide-spaced folds, first posterior fold smaller than the second subsequent fold, siphonal canal straight, siphonal notch absent. Fawn in colour, occasionally with 2 very faint yellowish-brown bands on the body whorl.

Juvenile shells 5.7 mm in length have a teleoconch of $3\frac{1}{4}$ whorls and a protoconch of $1\frac{1}{2}$ globose whorls. Whorls are more subangulate on the presutural ramp and the ribs finely granulose on the summits.

Operculum small, 2.1 mm in length in a shell 11.0 mm in length, slender and elongate, corneous, thin, yellowish-brown in colour and with an indistinct basal nucleus. The radula could not be recovered but it was observed that the animal was a male with a simple and moderately large mitracean-type penis behind the right tentacle, tentacles short and stubby, eyes darkly pigmented and moderately large for tentacle size.

TYPE LOCALITY : Station 15, off southern New Caledonia, Latitude $22^{\circ}49'$ S & Longitude $167^{\circ}12'$ E, 390 m-395 m (*leg.* "N.O. Vauban" — 10-IV-1978).

HOLOTYPE : In MNHN, length 13.2 mm, width 6.1 mm, height of aperture 8.8 mm.

PARATYPES : (5 in MNHN, 1 in Auckland Institute and Museum). From St. 15 : $10.0 +$ mm \times 5.1 mm \times 5.7 mm (broken specimen). From St. 16, $22^{\circ}46'$ S & $167^{\circ}12'$ E, 390 m-400 m : 12.8 mm \times 5.7 mm \times 7.8 mm ; 12.5 mm \times 5.8 mm \times 8.3 mm ; 11.6 mm \times 5.3 mm \times 7.3 mm (immature specimen) ; 7.4 mm \times 3.5 mm \times 5.0 mm (juvenile specimen) ; 5.7 mm \times 2.7 mm \times 3.5 mm (juvenile specimen).

DISCUSSION

This is the first species of *Waimatea* recorded outside the Austral-Neozelanic region. *V. (W.) vaubani* is similar in appearance to the Austral-Neozelanic shallow water species *V. (W.) obscura* (Hutton, 1873) but differs appreciably in colouring, sculpture, animal and operculum. *Volutomitra* and *Waimatea* are rather similar in opercular and radular characteristics and the difference in shell-form would suggest a subgeneric rather than generic classification of *Waimatea*.

CONCLUSIONS

From the 21 species of 5 families recorded by the "N.O. Vauban" dredgings in New Caledonian waters, 5 species of Buccinidae and 2 of Mitridae are new geographical records for the region, and the solitary representative of the family Volutomitridae is a new species.

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PLATE I

(All from Mozambique Channel)

1. *Nassarius dilutus* (E. A. Smith). St. 3-DS, 1 100 m-1 150 m ; 10.9 mm.
2. *N. multipunctatus* (Shepman). St. 5-DR, 35 m-150 m ; 8.6 mm (spec. juv.).
3. *Mitra rosacea* Reeve. St. 101-DS, 26 m ; 19.4 mm.
4. *Ziba rehderi* (Webb). St. 8-DR, 250 m ; 22.6 mm (spec. juv.).
5. *Vexillum (Costellaria) bipartitum* (E. A. Smith). St. 93-DS, 480 m-550 m ; 6.1 mm.
- 6-7. *V. (C.) duplex* nom. nov. : 6, holotype ; 21.6 mm (holotype of *Mitra simplicissima* Shepman) ; 7, paratype ; 16.4 mm (holotype of *M. simplicissima* var. *glabra* Shepman).
8. *V. (C.) rubellum* (Adams & Reeve). St. 120-DS, 335 m-390 m ; 17.3 mm (outer lip broken).

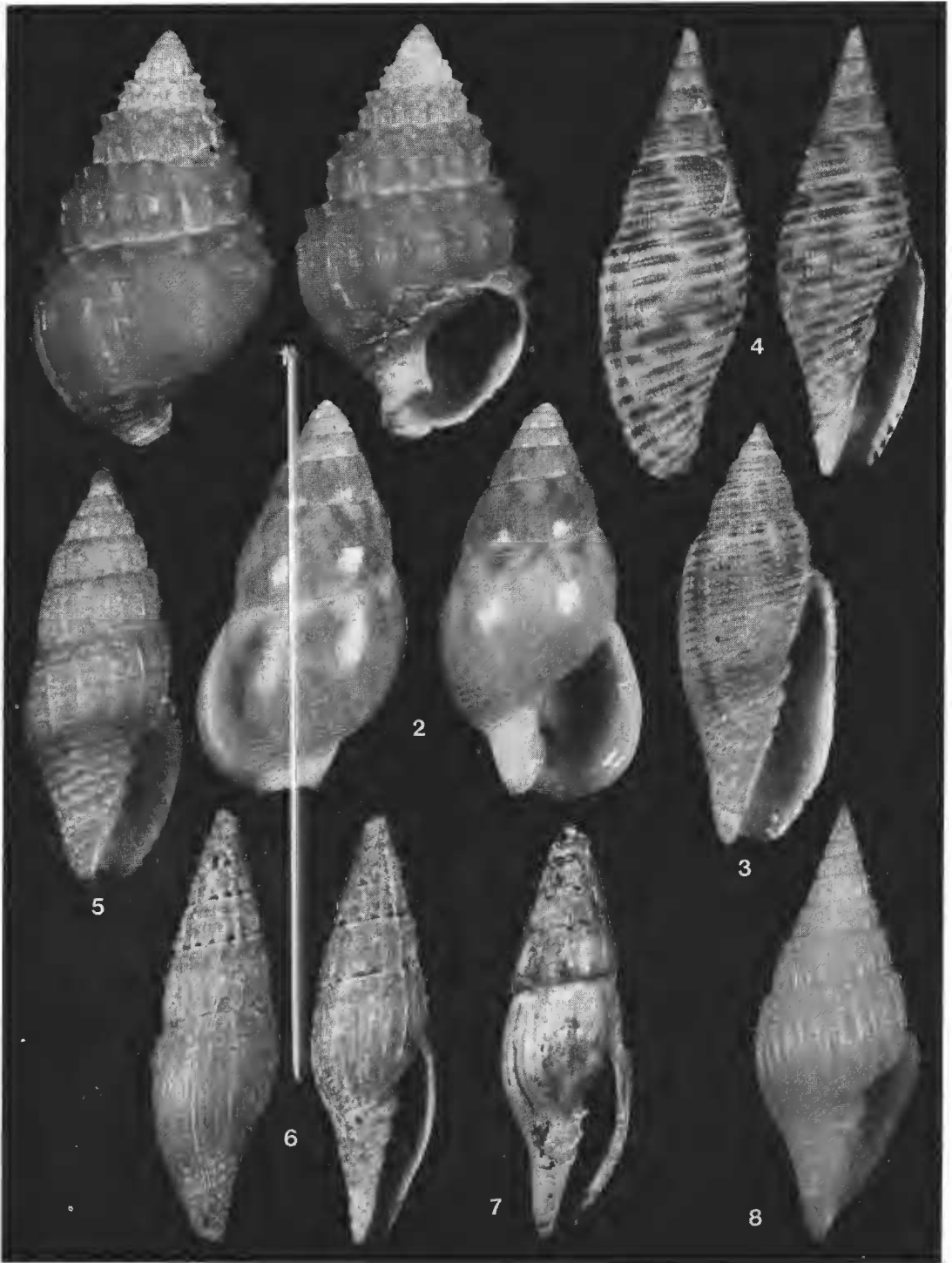


PLATE I

PLATE II

(All from Mozambique Channel)

9. *Vexillum (Costellaria) micra* (Pilsbry). St. 14-R, 5 m-20 m ; 6.6 mm.
10. *V. (Pusia) salisburyi* Cernohorsky. St. 14-R, 5 m-20 m ; 7.0 mm.
11. *V. (P.)* cf. *roseotinctum* (Hervier). St. 14-R, 5 m-20 m ; 6.0 + mm.
12. *V. (P.) goubini* (Hervier). St. 8-DR, 250 m ; 4.5 mm.
13. *V. (P.) speciosum* (Reeve). St. 32-R + S, 15 m-20 m ; 15.0 mm (spec. juv.).
- 14-15. *Microvoluta joloensis* Cernohorsky : 14, St. 10-DS, 440 m ; 10.0 mm ; 15, St. 122-DS, 615 m-625 m ; 9.2 mm.

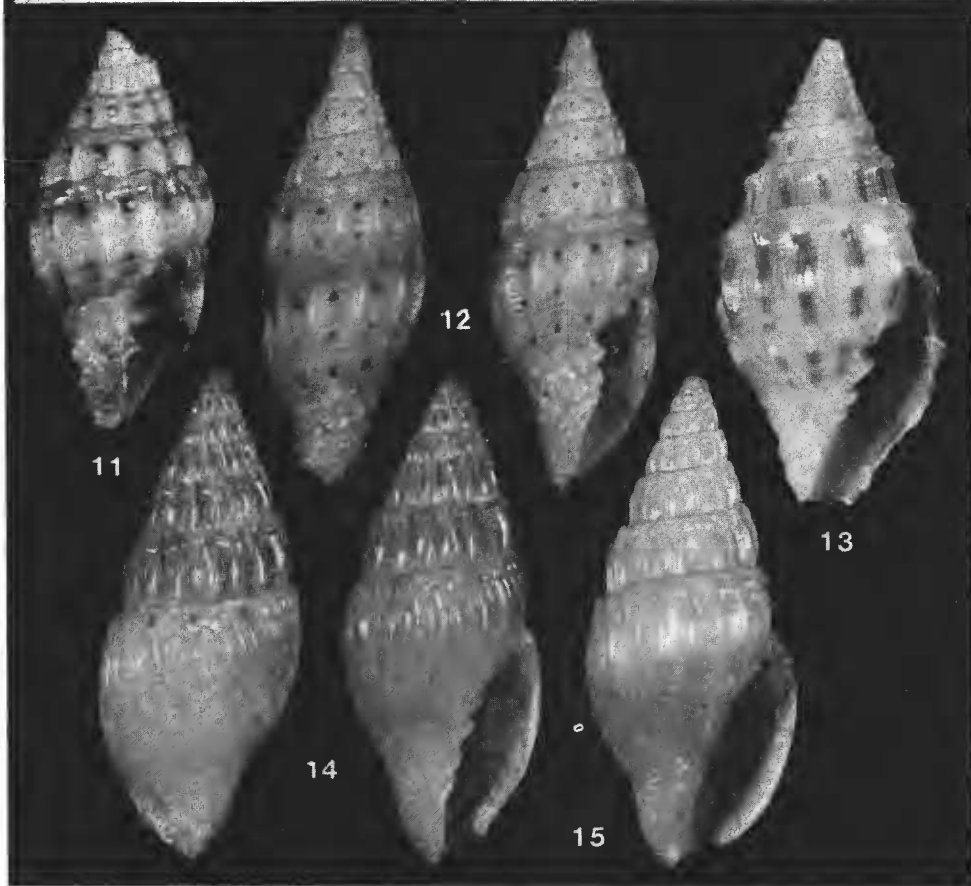
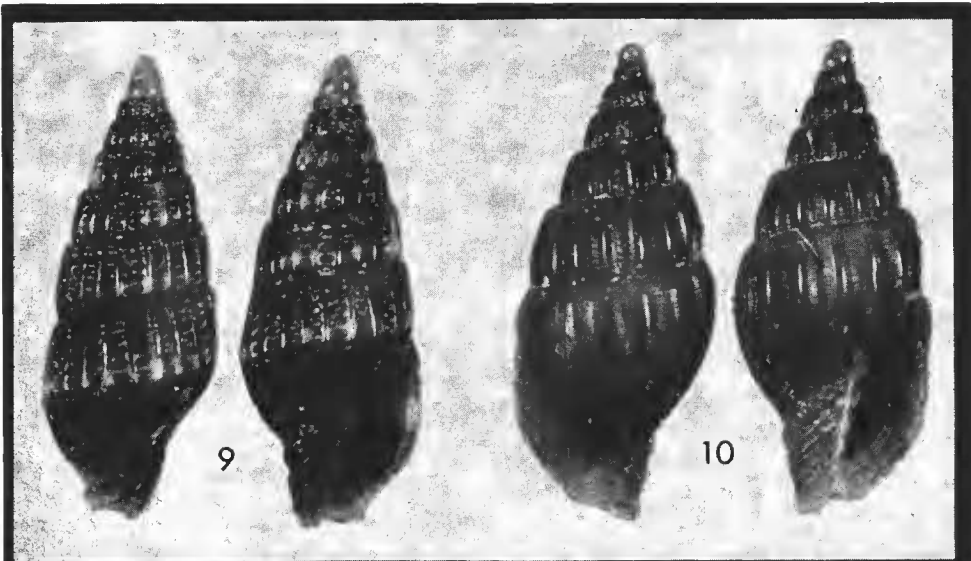


PLATE II

PLATE III

(All from New Caledonia)

16. *Nassaria acuminata* (Reeve). St. 8, 220 m-230 m ; 23.0 mm.
- 17-18. *N. solida* Kuroda & Habe in Habe. St. 19, 395 m-405 m ; 37.5 mm.
19. *N. spinigera* (Hayashi & Habe). St. 2, 425 m-430 m ; 13.7 mm.
20. *Phos textilis* A. Adams. St. 10, 80 m ; 16.8 mm.
21. *Cantharus (Pollia)* sp. St. 15, 390 m-395 m ; 18.2 mm.
22. *Cancilla abyssicola* (Schepman). St. 40, 250 m-350 m ; 24.8 mm (spec. juv.).

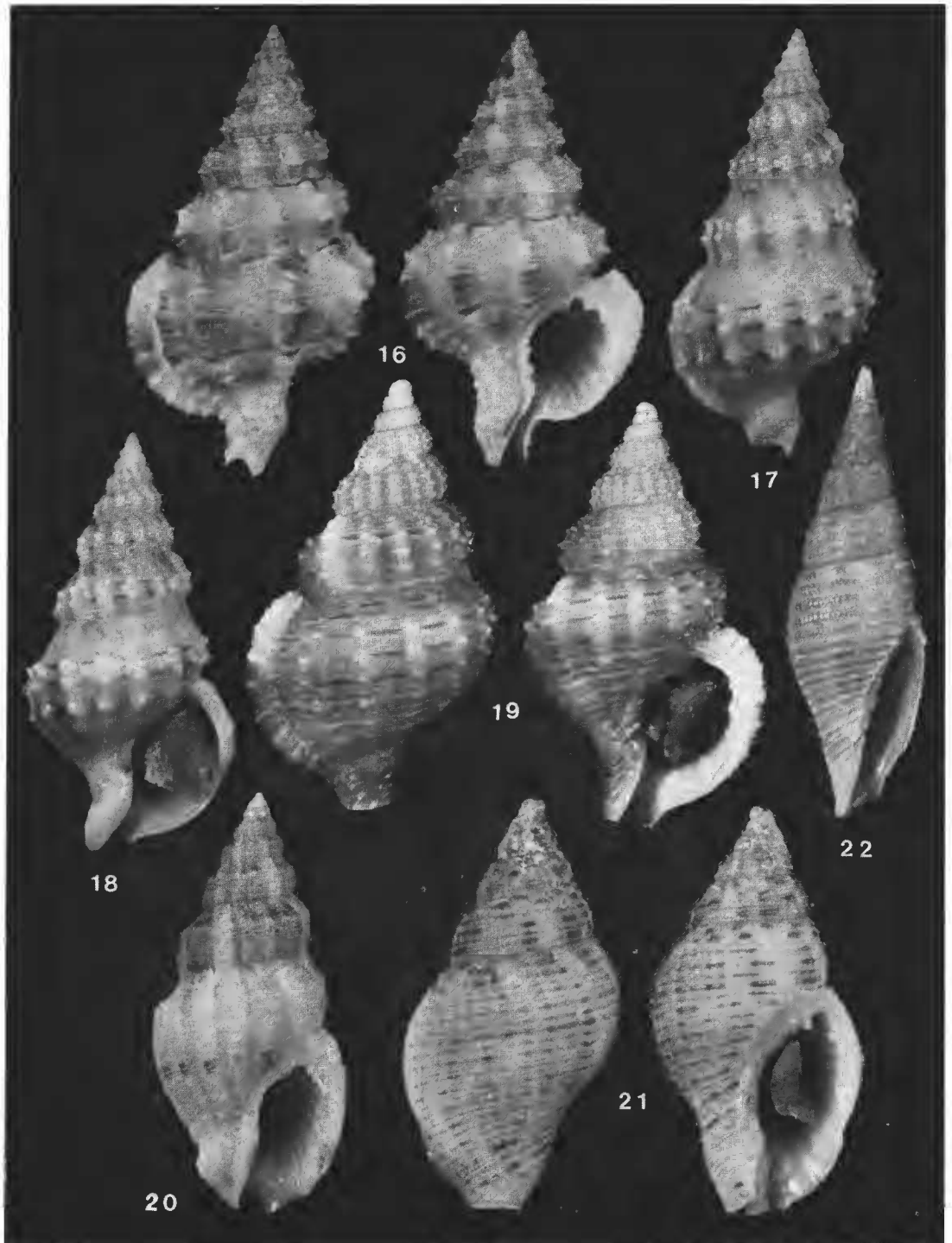


PLATE III

PLATE IV

(From New Caledonia)

23-28. *Volutomitra (Waimatea) vaubani* n. sp. : 23-24, holotype, St. 15, 390 m-395 m ; 13.2 mm ; 25-26, paratype, St. 16, 390 m-400 m ; 12.8 mm ; 27, juvenile paratype, St. 16, 390 m-400 m ; 7.4 mm ; 28, operculum ; 2.1 mm.

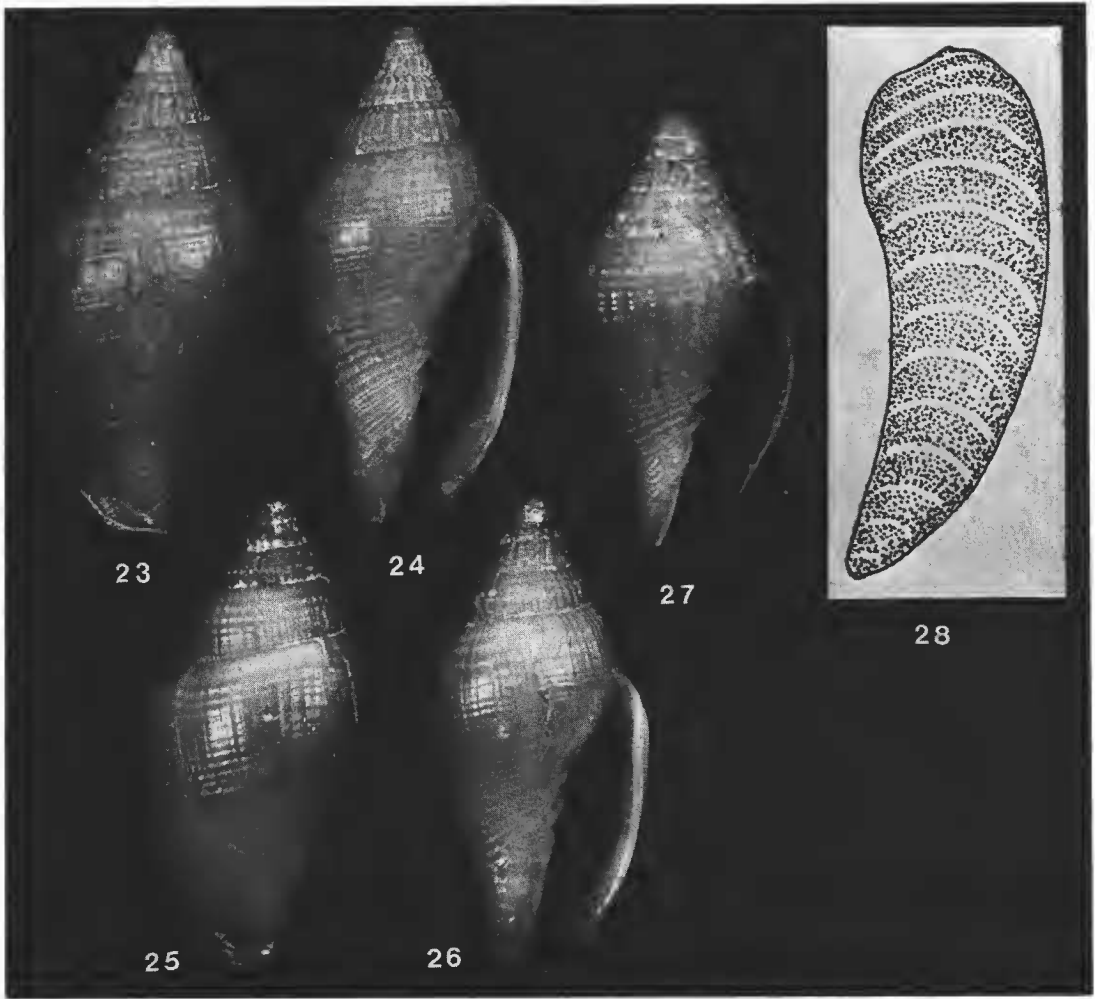


PLATE IV